

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : Charles C. Hays
Serial No. : Not yet known
Filed : July 14, 2003
Title : FRACTIONAL VARIATION TO IMPROVE BULK METALLIC GLASS
FORMING CAPABILITY

Art Unit : Unknown
Examiner : Unknown

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

INFORMATION DISCLOSURE STATEMENT

Copies of the references listed on the attached form PTO-1449 can be found in parent application serial number 09/681,594.

This statement is being filed with the application. Please apply any charges or credits to Deposit Account No. 06-1050.

Respectfully submitted,



Joseph R. Baker, Jr.
Reg. No. 40,900

Date: _____

7/14/03

Fish & Richardson P.C.
4350 La Jolla Village Drive, Suite 500
San Diego, California 92122
Telephone: (858) 678-5070
Facsimile: (858) 678-5099

10312136.doc

CERTIFICATE OF MAILING BY EXPRESS MAIL

Express Mail Label No. EV348190236US

July 14, 2003

Date of Deposit

| | | | |
|--|--|--|----------------------------------|
| Substitute Form PTO-1449 (Modified) Information Disclosure Statement by Applicant (Use several sheets if necessary) (37 CFR §1.98(b)) | U.S. Department of Commerce Patent and Trademark Office | Attorney's Docket No. 06618-629002 | Application No. Not yet known |
| | Applicant Charles C. Hays | | |
| | Filing Date July 14, 2003 | Group Art Unit Not yet known | |

| U.S. Patent Documents | | | | | | | |
|-----------------------|-----------|-----------------|------------------|------------------|-------|----------|----------------------------|
| Examiner Initial | Desig. ID | Document Number | Publication Date | Patentee | Class | Subclass | Filing Date If Appropriate |
| | AA | 5,380,375 | 01-1995 | Hashimoto et al. | | | |
| | AB | 5,735,975 | 04-1998 | Lin et al. | | | |
| | AC | 5,797,443 | Aug. 25, 1998 | Lin et al. | | | |
| | AD | 5,737,975 | Apr 7, 1998 | Lin et al. | | | |
| | AE | 5,482,577 | Jan 9, 1996 | Hashimoto et al. | | | |
| | AF | | | | | | |
| | AG | | | | | | |
| | AH | | | | | | |
| | AI | | | | | | |
| | AJ | | | | | | |
| | AK | | | | | | |

| Foreign Patent Documents or Published Foreign Patent Applications | | | | | | | | |
|---|-----------|-----------------|------------------|--------------------------|-------|----------|-------------|----|
| Examiner Initial | Desig. ID | Document Number | Publication Date | Country or Patent Office | Class | Subclass | Translation | |
| | | | | | | | Yes | No |
| | AL | | | | | | | |
| | AM | | | | | | | |
| | AN | | | | | | | |
| | AO | | | | | | | |
| | AP | | | | | | | |

| Other Documents (include Author, Title, Date, and Place of Publication) | | |
|---|-----------|---|
| Examiner Initial | Desig. ID | Document |
| | AQ | Eckert, J. et al. "Mechanically alloyed $Zr_{55}Al_{10}Cu_{30}Ni_5$ metallic glass composites containing nanocrystalline W particles." <i>Journal of Applied Physics</i> (1999): 7112-1779. |
| | AR | Xing, L.Q. et al. "High-strength materials produced by precipitation of icosahedral quasicrystals in bulk Zr-Ti-Cu-Ni-Al amorphous alloys." <i>Applied Physics Letters</i> (1999): 664-666. |
| | AS | Xing, L.Q. et al. "Deformation mechanism of amorphous and partially crystallized alloys." <i>NanoStructured Materials</i> (1999): 503-506. |
| | AT | Eckert, J. "Mechanical alloying of bulk metallic glass forming systems." <i>Materials Science Forum</i> (1999): 3-12. |

| | |
|--|-----------------|
| Examiner Signature | Date Considered |
| EXAMINER: Initials citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. | |

| | | | |
|--|--|--|---|
| Substitute Form PTO-1449 (Modified) | U.S. Department of Commerce Patent and Trademark Office | Attorney's Docket No. 06618-629002 | Application No. Not yet known |
| Information Disclosure Statement by Applicant (Use several sheets if necessary) (37 CFR §1.98(b)) | | Applicant Charles C. Hays | |
| | | Filing Date July 14, 2003 | Group Art Unit Not yet known |

| Other Documents (include Author, Title, Date, and Place of Publication) | | |
|---|-----------|---|
| Examiner Initial | Desig. ID | Document |
| | AU | Schurack, F. et al. "Synthesis and properties of mechanically alloyed and ball milled high strength amorphous or quasicrystalline Al-alloys." <i>Materials Science Forum</i> (1999): 49-54. |
| | AV | Kubler, A. et al. "Nanoparticles in an amorphous $Zr_{55}Al_{10}Cu_{30}Ni_5$ -matrix-the formation of composites by mechanical alloying." <i>Nanostructured Materials</i> (1999): 443-446. |
| | AW | Eckert, J. et al. "Nanophase composites in easy glass forming systems." <i>NanoStructured Materials</i> (1999): 439-442. |
| | AX | Schlörke, N. et al. "Properties of Mg-Y-Cu glasses with nanocrystalline particles." <i>NanoStructured Materials</i> (1999): 127-130. |
| | AY | Eckert, J. et al. "Mechanically alloyed Mg-based metallic glasses and metallic glass composites containing nanocrystalline particles." <i>Z. Metallkd</i> 90 (1999): 908-913. |
| | AZ | Shingu, P.H. "Metastability of amorphous phases and its application to the consolidation of rapidly quenched powders." <i>Materials Science and Engineering</i> (1988): 137-141. |

| | |
|--|-----------------|
| Examiner Signature | Date Considered |
| EXAMINER: Initials citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. | |